

### **REMARKS**

These remarks are responsive to the Office Action mailed December 21, 2004 ("Office Action"). In the event any fees are due with this amendment, please charge the undersigned's Deposit Account No. 50-0206. Applicants respectfully request further examination and reconsideration of the rejections of the Office Action for at least the following reasons.

Claims 1, 3-16, and 18-42 are pending in the application. Claims 2 and 17 are cancelled by the present amendment. Claim 42 is added and claims 1, 3, 4, 6-9, 12-14, 18-22, 26, 31, 34, and 39 are amended.

Claims 1-4, 7, and 14-25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication 2004/0198436 A1 ("Alden"). Claims 26-31 and 34-39 stand rejected under 35 U.S.C. § 103(a) as being obvious over Alden. Claims 5-6, 32, and 40 stand rejected under 35 U.S.C. § 103(a) as being obvious over Alden in view of U.S. Patent Publication 2002/0057746 A1 ("Chen"). Claims 8-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Alden in view of U.S. Patent 6,795,718 ("Bae"). Claim 11 stands rejected as under 35 U.S.C. 103(a) as being unpatentable over Alden in view of Bae in further view of U.S. Patent 5,101,504 ("Lenz"). Claims 12-13, 33, and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden in view of Lenz. Applicants respectfully request that these rejections be withdrawn for at least the following reasons.

### **INTERVIEW**

Applicants appreciate the personal interview held February 9, 2005. At the interview, applicants, through their representatives, argued that the applied references failed to anticipate or render obvious the claims. Claim amendments were proposed and the claim language discussed to ensure that the subject matter that the inventors consider as their invention is clearly set forth. The Examiner agreed to reconsider the application and contact applicants to address any issues that may be resolved prior to issuance of the next action.

Applicants presented a prototype of the commercial embodiment of the claimed invention. Applicants explained that the inventors have established a corporation for the purpose of distributing the inventive wireless headset. The corporation has attracted substantial capital investment and interest in the commercial embodiments of the invention. Significant orders have been placed for the inventors' wireless headset. Applicants are eager to advance the prosecution of this application in order to obtain patent protection for their blossoming enterprise.

Applicants' invention and the claims were discussed at the interview in an attempt to facilitate and expedite further examination. Applicants explained that the application is directed to a wireless headset with a push-to-talk button that controls the transmit mode of a half-duplex communications device. Applicants asserted that there is no showing or suggestion of such a wireless headset in the prior art. The claims language was discussed to ensure that applicants and the Examiner are consistently interpreting the claim language and that the language particularly points out the subject matter that applicants regard as the invention.

With regard to claim 26, it was agreed that the claims language would more clearly set forth the invention if the recited transmit mode signal was defined by the function of the signal at the half-duplex communications device as opposed to the state of the wireless headset that the signal represents. Accordingly, applicants agreed to amend claim 26 to set forth that the transmit mode signal causes the half-duplex device to enter a transmit mode. It was pointed out by the Office that the half-duplex communications device may have multiple transmission modes and that a half-duplex transmission mode is entered based on the transmit mode signal. Applicants agreed to amend claim 26 to address this point. Applicants further agreed to amend claim 34 in the same manner.

With regard to claim 1, the Office indicated that the preamble was given little weight and the language of the body of claims would be broadly interpreted. Applicants agreed to set forth structure of the apparatus required to function as a wireless headset. It was further agreed to set forth the function of the wireless headset in a manner similar to that agreed upon with respect to claim 26.

Applicants explained that the apparatus of claim 18 defines an adapter for a two-way radio that transmits information to and receives information from the wireless headset. Applicants agreed to more clearly set forth the structure of the apparatus and, in particular, to further define the wireless interface by setting forth its function.

The Office agreed to promptly reconsider the application, contact applicants should any unexpected new art be uncovered that may be summarily addressed through an Examiner's amendment or the like, and issue a further communication regarding this application.

#### **CLAIM AMENDMENTS**

Applicants have amended the claims as discussed during the interview. Applicants assert that the applied references do not anticipate nor render obvious the originally filed claims.

Accordingly, the claims are not amended to avoid the applied art. Rather, the claim amendments are intended to more clearly set forth the subject matter applicants regard as the invention in a manner that enables the Examiner to expedite the prosecution of the application. For instance, the disclosed invention is directed to a wireless headset used with a portable communications device that operates in a half-duplex mode, *i.e.* requiring activation of a push-to-talk (PTT) button to transmit. The wireless headset includes the PTT button. Upon activation of the PTT button, a signal is sent from the wireless headset that indicates the user is talking. The signal causes the communications device to enter its transmission mode. The original claims set forth that the signal indicates the provision of audio information by the headset for transmission by the communications device. It was agreed at the interview that it is clearer to set forth that the signal causes the communications device to enter its transmission mode. It is, however, the same signal that is defined in a different manner. Thus, this amendment is not intended to reduce the scope of the claims, but rather to facilitate examination.

Claim 1 sets forth a wireless headset. Claim 1 is amended to positively recite structural components of the wireless headset including the speaker assembly, the microphone assembly and the transceiver. Applicants respectfully assert that a wireless headset including switch that causes a half-duplex communication device to enter a transmission mode is novel and patentable. Applicants note that the term half-duplex is used to refer to true half-duplex and other similar communications methods wherein push-to-talk mechanism or similar transmit/receive switch mechanism is used to reserve a wireless channel for the transmission of information. There is no suggestion in the prior art of a wireless headset with such a switch.

Claims 2 and 17 are cancelled as the limitations of these claims have been substantially set forth in independent claim 1 as amended. Claims 3 and 4, which previously depended from claim 2, have been amended to directly depend from claim 1. Claims 6-9 and 12, which depend from claim 1, are amended to conform to the amendments to claim 1. Original claims 13 and 14, which depended from claim 1, both referred to a body of the wireless headset. New claim 42, dependent from claim 1, is added to positively define the body. Claims 13 and 14 are amended to depend from new claim 42.

An embodiment of the apparatus of claim 18 is the wireless adapter 118 disclosed in the specification. The apparatus receives wireless signals from a wireless headset and provides signals to a half-duplex communications device (such as a two-way radio or mobile phone).

Claim 18 is amended to set forth that a transceiver is adapted to receive the signals from the wireless headset. Claim 18 is further amended to set forth that a processor receives a first transmit mode indicating engagement of a switch and provides a second transmit mode signal to direct the half-duplex communications device to switch to a transmit mode. Applicants respectfully submit that the prior art does not teach or suggest a apparatus that receives signals from a wireless headset and provides signals to a half-duplex communications device as set forth by claim 18 as amended.

Claims 19-22 depend from claim 18. These claims are amended to conform to the amendments to claim 18.

Claim 26 sets forth a system including a half-duplex communications device and a wireless headset. As agreed upon at the interview, claim 26 is amended to set forth that the transmit mode signal causes the half-duplex communications device to enter a half-duplex transmission mode. Applicants respectfully submit that the prior art does not teach or suggest a system of a half-duplex communications device and a wireless headset in which the headset is adapted to wirelessly transmit a transmit mode signal as defined in claimed 26 as amended.

Claims 34 sets forth a system including a half-duplex communications device, a transmit switch assembly, and a wireless headset. Similar to claim 26, claim 34 is amended to set forth that the transmit mode signal causes the half-duplex communications device to enter a half-duplex transmission mode. Applicants respectfully submit that the prior art does not teach or suggest a system of a half-duplex communications device, a transmit switch assembly and a wireless headset in which the transmit switch assembly is adapted to wirelessly transmit a transmit mode signal as defined in claim 34 as amended.

Claims 31 and 39 are amended to correct a typographical error.

### **Prior Art Rejections**

As discussed during the interview, applicants have invented a wireless headset for use with half-duplex type portable radios. Half-duplex radios require a push-to-talk mechanism to place the radio in a transmit mode. According to the invention the wireless headset can control the push-to-talk mechanism of the radio. The applied art does not teach or suggest a wireless headset that transmits a signal that controls a half-duplex push-to-talk mechanism.

#### **Claim 1**

Claim 1 is amended, as agreed upon during the interview, to set forth the structure of the wireless headset. Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Alden. For anticipation under 35 U.S.C. § 102, the reference must teach every aspect of the claimed invention. *See* M.P.E.P. § 706.02 (8<sup>th</sup> Ed. Rev. 2, 2004). Alden does not teach every limitation of claim 1 as amended.

Claim 1 as amended sets forth a transceiver adapted to wirelessly transmit a signal representative of an engagement of a switch to a half-duplex communications device. Alden does not teach this limitation. The Office Action cites to paragraph 0034 of Alden to show switch 58 and paragraph 0039 of Alden to show wireless transmission. However, Alden is directed to integrating services provided by personal music players and mobile phones. Alden, para. 0003. The switch 58 enables the user to output one of signals from either the personal music player or the mobile phone. No signal representative of the engagement of the switch is transmitted to the mobile phone of Alden (or to the personal music player). Claim 1 as amended sets forth that the signal is for causing the half-duplex communications device to enter a half-duplex transmission mode. Switch 58 of Alden does not cause a communications device to enter a transmission mode. Alden teaches no signal transmitted to a half-duplex communications device to cause the device to enter a transmission mode. For at least this reason, Alden does not anticipate claim 1 as amended. Applicants respectfully request the withdrawal of the rejection of claim 1 as being anticipated by Alden.

Claims 2-4, 7, and 14-17

Claims 2-4, 7, and 14-17 stand rejected under 35 § 102(e) as being anticipated by Alden. The cancellation of claims 2 and 17 renders the rejections of these two claims moot. Claims 3, 4, 7 and 14-16 depend from claim 1. Applicants submit that claims 3, 4, 7, and 14-16 are patentable over Alden for at least the reasons discussed above with respect to claim 1. Applicants respectfully request the withdrawal of the rejections of claims 3, 4, 7 and 14-16 for at least this reason.

In addition, claim 15 sets forth that the signal representative of an engagement of the switch includes a signal transmitted during at least a portion of a period that the switch is engaged. The Office Action cites to paragraph 0035 of Alden to teach this feature. Paragraph 0035 discloses that the Alden device includes a microphone to transmit an *audio* signal to the mobile phone. Alden remains silent regarding a signal representative of an engagement of a

switch as set forth in claim 1. Alden, thus, does not teach that such a signal includes a signal transmitted during a portion of a period that the switch is engaged.

Claim 16 sets forth that the signal representative of an engagement of the switch includes an absence of a signal during at least a portion of a period that the switch is engaged. The Office Action acknowledges that Alden is silent on a signal representative of an engagement of the switch including an absence of a signal during at least a portion of a period that the switch is engaged. The Office Action asserts that this feature is inherent in the teaching of Alden. To the contrary, Alden does not teach a signal representative of an engagement of the switch for the reasons set forth above with respect to claim 1. Accordingly, there is no inherent teaching of how such a signal functions. Furthermore, the instant specification in conjunction with Figure 6 of the drawing discloses an exemplary method for providing a signal representative of an engagement of a switch. Described is the cessation of a periodic transmission of chirps to signal the engagement of the switch. Such operation is not inherent in the teaching of Alden.

#### Claim 18

Claim 18 is amended as discussed during the interview. Claim 18 is directed to an adapter for a two-way radio that transmits information to and receives information from a wireless headset. Claim 18 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Alden. Alden discloses no such adapter and, thus, does not teach each limitation of claim 18. Accordingly, applicants respectfully request that the rejection of claim 18 be withdrawn.

Claim 18 as amended sets forth an apparatus that includes a processor connected to the transceiver for receiving a first transmit mode signal indicating engagement of a switch. The Office Action cites elements 58 and 62 of Alden as disclosed in paragraph 0034 to teach this claim limitation. Coupling device 28b of Alden is relied upon to show the transceiver. However, Alden does not teach that coupling device 28b receives any signal indicating engagement of switch 58 in its first position 62. To the contrary, Alden describes that a user may listen to audio from a personal music player with switch 58 in a first position 62. Alden is silent regarding any signal indicating that switch 58 is engaged in first position 62. Accordingly, Alden does not teach any component for receiving a first transmit mode signal indicating engagement of a switch.

Claim 18 further sets forth that the processor is connected to an interface for providing a second transmit mode signal to a half-duplex communications device to direct the half-duplex

communications device to switch to a half-duplex transmit mode. The Office Action cites to elements 28, 13, and 16 of Figure 8 of Alden to teach this limitation. Figure 8 of Alden illustrates a coupling device 28 and a personal audio player 16. Signal 13 is an audio signal from the audio device 16. Alden, para. 0026. As signal 13 is an *audio* signal *from* an audio device, Alden does not teach that this signal directs a communications device to switch to a transmit mode. Alden includes no teaching of an adapter that provides a transmit mode signal to a half-duplex communications device to direct the device to switch to a transmit mode as set forth by claim 18.

Applicants respectfully submit that Alden does not anticipate claim 18 as amended for at least the above reasons.

#### Claims 19-25

Claims 19-25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Alden. Claims 19-25 depend from claim 18. Applicants submit that Alden fails to anticipate claims 19-25 for at least the reasons set forth above with respect to claim 18. Applicants respectfully request the withdrawal of the rejections of claims 19-25 for at least this reason.

In addition, claim 23 sets forth that the first transmit mode signal is received from a wireless transmit switch assembly. Alden teaches no wireless transmit switch assembly. The Office Action cites to switch 58 of Figure 5 of Alden to show a switch assembly. However, Figure 5 does not show a wireless assembly.

Claim 24 sets forth that the apparatus is integrated with the half-duplex communications device. Claim 25 sets forth that the apparatus is separate from the half-duplex communications device. The Office Action cites to identical components illustrated in Figure 8 of Alden to teach the limitations of both of these claims. The Office Action fails to explain how Alden discloses any apparatus as being either integrated with or separate from a half-duplex communications device.

#### Claim 26

Claim 26 is amended as discussed during the interview. Claim 26 sets forth a system including a half-duplex communications device and a wireless headset. Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden. Applicants submit that Alden fails to show or suggest each limitation of claim 26. Applicants respectfully request that the rejection of claim 26 be withdrawn for at least this reason.

Claim 26 as amended sets forth that the headset is adapted to wirelessly transmit a transmit mode signal for reception by the half-duplex communications device, the transmit mode signal causing the half-duplex communications device to enter a half-duplex transmission mode, and wherein the half-duplex communications device is adapted to transmit in the half-duplex transmission mode audio information based in part upon receipt of the transmit mode. Alden does not show or suggest such a transmit mode signal. The Office Action cites to the coupling device 28 illustrated in Figure 8 of Alden to show a headset adapted to wirelessly transmit such a transmit mode signal. Alden does not show or suggest that the coupling device 28 transmits any such mode signal. Alden discloses that the coupling device communicates audio signals. Alden includes no suggestion regarding transmission of any control signals and, thus, does not suggest a transmit mode signal as set forth by claim 26.

Alden is silent regarding the details of any half-duplex communications device. The Office Action asserts that it is obvious that the half-duplex communications device is adapted to transmit at least a portion of the audio information based at least in part upon the receipt of the transmit mode signal. No support is provided for this assertion. Alden does not explicitly address the operation of half-duplex communications devices. Alden is silent regarding control of half-duplex communication devices by wireless headsets. The Office Action identifies no motivation or suggestion to modify the teaching of Alden to include a transmit mode signal as set forth by claim 26. Accordingly, there is no suggestion to adapt a half-duplex communications device to transmit based upon receipt of such a transmit mode signal as set forth by claim 26.

Applicants respectfully submit that claim 26 is patentable over Alden for at least the above reasons.

#### Claims 27-31

Claims 27-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden. Claims 27-31 depend from claim 26. Claims 27-31 are patentable over Alden for at least the reasons set forth above with regard to claim 26. Applicants respectfully request that the rejections of claims 27-31 be withdrawn for at least this reason.

In addition, claim 27 sets forth that the headset includes a switch operable by a user, wherein the transmit mode signal is transmitted when the switch is engaged by the user. The Office Action cites to switch 58 as illustrated in Figure 5 of Alden to show this limitation. However, as discussed above, switch 58 enables a user of the Alden device to selectively connect



to either a personal music player or a mobile phone. Alden includes no suggestion that any transmit mode signal is transmitted when switch 58 is engaged.

Claim 28 sets forth that the transmit mode signal includes a signal transmitted during at least a portion of a period that the switch is engaged. Claim 28 is patentable over Alden for reasons similar to those set forth for claim 15 discussed above. Alden is silent regarding a transmit mode signal that is transmitted when the switch is engaged.

Claims 29 sets forth that the transmit mode signal includes an absence of a signal during at least a portion of a period that the switch is engaged. Claim 29 is patentable over Alden for reasons similar to those set forth for claim 16 discussed above. The Office Action asserts, as it did for claim 16, that it is inherent that there is an absence of signal during at least a portion of a period that the switch is engaged. However, there is no transmit mode signal disclosed by Alden and, thus, there no inherent method by which such a transmit mode signal would function in the Alden system.

#### Claim 34

Claim 34 sets forth a system including the elements of the system of claim 26. In addition, claim 34 includes a transmit switch assembly. Claim 34 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden. Applicants submit that Alden does not show or suggest each limitation of claim 34. Accordingly, applicants respectfully request that the rejection of claim 34 be withdrawn.

Claim 34 as amended sets forth that the transmit switch assembly is adapted to wirelessly transmit a transmit mode signal for reception by the half-duplex communications device, the transmit mode signal causing the half-duplex communications device to enter a half-duplex transmission mode, wherein the half-duplex communications device is adapted to transmit in the half-duplex transmission mode audio information received from the headset based at least in part upon receipt of the transmit mode signal. The Office Action acknowledges that Alden does not disclose a transmit switch assembly wirelessly connected to a communications device. It is asserted that alternative embodiments of Alden disclose a wired switch and a wireless headset. It is, thus, asserted in the Office Action that it is obvious to include a transmit switch wirelessly connected to the communications device. However, the wired switch of Alden does not cause a half-duplex communications device to enter a half-duplex transmission mode. Additionally, Alden does not teach a half-duplex communications device adapted to transmit based upon

receipt of the transmit mode signal for reasons similar to those set forth above with respect to claim 26. Applicants respectfully submit that claim 34 is patentable over Alden for at least these reasons.

Claims 35-39

Claims 35-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden. Claims 35-39 are similar to claims 27-31 respectively but for depending from claim 34. Claims 35-39 are patentable over Alden for the reasons set for above with respect to claims 34 and 27-31. Applicants respectfully request that the rejections of claims 35-39 be withdrawn for these reasons.

Claims 5, 6, 32, and 40

Claims 5, 6, 32, and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden in view of Chen. Claims 5 and 6 depend from claim 1. Claim 32 depends from claim 26. Claim 40 depends from claim 34. Alden does not show or suggest every limitation of the independent claims from which these claims depend. The Office Action does not suggest that Chen corrects for these deficiencies of Alden discussed above (and Chen does not). Chen does not show or suggest a signal that causes a half-duplex communications device to enter a transmission mode. For at least this reason, claims 5, 6, 32, and 40 are patentable over Alden in view of Chen. Applicants respectfully request that these rejections of claims 5, 6, 32, and 40 be withdrawn.

Claims 8-10

Claims 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden in view of Bae. Claims 8-10 depend from claim 1. Alden does not show or suggest each limitation of claim 1 for the reasons discussed above. The Office Action does not suggest that Bae corrects for these deficiencies of Alden discussed above (and Bae does not). Bae does not show or suggest a signal that causes a half-duplex communication device to enter a transmission mode. For at least this reason, claims 8-10 are patentable over Alden in view of Bae. Applicants respectfully request that these rejections of claims 8-10 be withdrawn.

Claim 11

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden in view of Bae and further in view of Lenz. Claim 11 depends from claim 1. Alden does not show or suggest each limitation of claim 1 for the reasons discussed above. Neither Lenz nor Bae

correct for the deficiencies of Alden as applied against claim 1. Accordingly, claim 11 is patentable over Alden in view of Bae and further in view of Lenz for at least the reasons set forth above with respect to claim 1. Additionally, claim 11 sets forth that the switch is positioned substantially coaxially with an ear insert. The Office Action applies Bae to show an ear insert. The Office Action asserts that Lenz discloses the switch positioned substantially coaxially with the ear insert. However, Lenz discloses earphones without ear inserts. Accordingly, Lenz does not suggest a switch positioned substantially coaxially with an ear insert. To the contrary, Lenz discloses that “[t]he switch is mounted on the earphone 12 so the depression direction 34 of switch actuation extends with a downward directional component.” Lenz, col. 2, ll. 56-58. This feature of Lenz provides for shoulder activation. Lenz, col. 2, ll. 44-47. Accordingly, Lenz teaches away from placing such a switch coaxially with an ear insert. Applicants respectfully request the withdrawal of the rejection of claim 11 for at least these reasons.

Claims 12, 13, 33, and 41

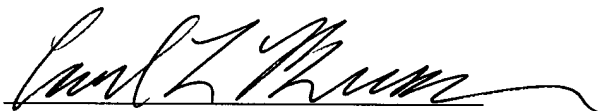
Claims 12, 13, 33, and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Alden in view of Lenz. Claims 12 and 13 depend from claim 1. Claim 33 depends from claim 26. Claim 41 depends from claim 34. Alden does not show or suggest every limitation of the independent claims from which these claim depend. The Office Action does not suggest that Lenz corrects for these deficiencies of Alden discussed above (and Lenz does not). Lenz does not show or suggest a wireless signal that causes a half-duplex communications device to enter a transmission mode. For at least this reason, claims 12, 13, 33, and 41 are patentable over Alden in view Lenz. Applicants respectfully request that these rejections of claims 12, 13, 33, and 41 be withdrawn.

**CONCLUSION**

The Office Action, references, and rejections have been duly considered by the applicants and addressed by the foregoing remarks. Applicants submit that the prior art does not teach or suggest a wireless headset that transmits a signal that controls a half-duplex push-to-talk mechanism. Reconsideration of the application and early allowance are respectfully solicited in light of the above remarks. Should the Examiner require resolution of any issues for allowance, the Examiner is invited to contact the undersigned to expedite the prosecution of this application as discussed during the interview.

Respectfully submitted,

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